



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

401 M Street, S.W.  
WASHINGTON, D.C. 20460

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## DATA MATRIX

Date: May 29, 2018	EPA Reg. No./ File Symbol: 87427-11	Page 1 of 22
Applicant's/Registrant's Name and Address: AXSS Technical Holdings, LLC 111 Martin Road Fulton, MS 38843	Product: Clethodim 37% MUP	
Ingredient: Clethodim (CAS No. 99129-21-2)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
<b>Product Specific Data Requirements</b>					
830.1550	Product Identity and Composition	50576101	AXSS Technical Holdings, LLC	OWN	
		49155201	AXSS Technical Holdings, LLC	OWN	
		48227201	AXSS Technical Holdings, LLC	OWN	
830.1600	Description of Materials Used to Produce the Product	50576101	AXSS Technical Holdings, LLC	OWN	
		49155201	AXSS Technical Holdings, LLC	OWN	
		48227201	AXSS Technical Holdings, LLC	OWN	
830.1620	Description of Production Process	50576101	AXSS Technical Holdings, LLC	OWN	
		49155201	AXSS Technical Holdings, LLC	OWN	
		48227201	AXSS Technical Holdings, LLC	OWN	
830.1650	Description of Formulation Process				Not required
830.1670	Discussion of Formation of Impurities	50576101	AXSS Technical Holdings, LLC	OWN	
		49155201	AXSS Technical Holdings, LLC	OWN	
		48227201	AXSS Technical Holdings, LLC	OWN	
830.1700	Preliminary Analysis	50576102	AXSS Technical Holdings, LLC	OWN	
		49155202	AXSS Technical Holdings, LLC	OWN	
		49155203	AXSS Technical Holdings, LLC	OWN	
		48227202	AXSS Technical Holdings, LLC	OWN	
830.1750	Certified Limits	50576101	AXSS Technical Holdings, LLC	OWN	
		49155201	AXSS Technical Holdings, LLC	OWN	
		48227201	AXSS Technical Holdings, LLC	OWN	

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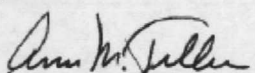
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Ingredient: Clethodim (CAS No. 99129-21-2)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
830.1800	Enforcement Analytical Method	50576102	AXSS Technical Holdings, LLC	OWN	
		49155201	AXSS Technical Holdings, LLC	OWN	
		49155202	AXSS Technical Holdings, LLC	OWN	
		49155203	AXSS Technical Holdings, LLC	OWN	
		49155204	AXSS Technical Holdings, LLC	OWN	
		48227201	AXSS Technical Holdings, LLC	OWN	
		48227202	AXSS Technical Holdings, LLC	OWN	
830.6302	Color	48227203	AXSS Technical Holdings, LLC	OWN	
		48227204	AXSS Technical Holdings, LLC	OWN	
830.6303	Physical State	48227203	AXSS Technical Holdings, LLC	OWN	
		48227204	AXSS Technical Holdings, LLC	OWN	
830.6304	Odor	48227203	AXSS Technical Holdings, LLC	OWN	
		48227204	AXSS Technical Holdings, LLC	OWN	
830.6313	Stability to Normal and Elevated Temperatures, Metals, and Metal Ions	48227205	AXSS Technical Holdings, LLC	OWN	Waiver <sup>1</sup>
		48227206	AXSS Technical Holdings, LLC	OWN	
830.6314	Oxidation/Reduction: Chemical Incompatibility	48227204	AXSS Technical Holdings, LLC	OWN	
830.6315	Flammability	48227204	AXSS Technical Holdings, LLC	OWN	
830.6316	Explosibility	48227206	AXSS Technical Holdings, LLC	OWN	Waiver <sup>2</sup>
830.6317	Storage Stability	48621401	AXSS Technical Holdings, LLC	OWN	
830.6319	Miscibility	48227206	AXSS Technical Holdings, LLC	OWN	Not required <sup>3</sup>
830.6320	Corrosion Characteristics	48621401	AXSS Technical Holdings, LLC	OWN	
830.6321	Dielectric Breakdown Voltage				Not required <sup>4</sup>

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Ingredient: Clethodim (CAS No. 99129-21-2)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
830.7000	pH	48227203 48227204	AXSS Technical Holdings, LLC AXSS Technical Holdings, LLC	OWN OWN	
830.7050	UV/Visible Absorption	48265101	Valent USA Corporation	PER	
830.7100	Viscosity	48227204	AXSS Technical Holdings, LLC	OWN	
830.7200	Melting Point/Melting Range				Not required <sup>5</sup>
830.7220	Boiling Point/Boiling Range	48227206	AXSS Technical Holdings, LLC	PL	See endnote <sup>6</sup>
830.7300	Density/Relative Density/Bulk Density	48227203 48227204	AXSS Technical Holdings, LLC AXSS Technical Holdings, LLC	OWN OWN	
830.7370	Dissociation Constants in Water	48227206	AXSS Technical Holdings, LLC	PL	
830.7520	Particle Size, Fiber Length, and Diameter Distribution	48227206	AXSS Technical Holdings, LLC	OWN	Waiver <sup>7</sup>
830.7550	Partition Coefficient (n-octanol/water), Shake Flask Method	48227206	AXSS Technical Holdings, LLC	PL	
830.7560	Partition Coefficient (n-octanol/water), Generator Column Method				See 830.7550
830.7570	Partition Coefficient (n-octanol/water), Estimation by Liquid Chromatography				See 830.7550
830.7840	Water Solubility: Column Elution Method; Shake Flask Method	48227206	AXSS Technical Holdings, LLC	PL	
830.7860	Water Solubility, Generator Column Method				See 830.7840
830.7950	Vapor Pressure	48227206	AXSS Technical Holdings, LLC	PL	
870.1100	Acute Oral Toxicity: Rat	40974507		OLD	See endnote <sup>8</sup>

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AXSS Technical Holdings, LLC  
111 Martin Road  
Fulton, MS 38843

Product:

Clethodim 37% MUP

Ingredient: Clethodim (CAS No. 99129-21-2)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
870.1200	Acute Dermal Toxicity: Rat	40974510		OLD	See endnote <sup>9</sup>
870.1300	Acute Inhalation Toxicity: Rat	40974512		OLD	See endnote <sup>10</sup>
870.2400	Primary Eye Irritation: Rabbit	40974514		OLD	See endnote <sup>11</sup>
870.2500	Primary Dermal Irritation	40974516		OLD	See endnote <sup>12</sup>
870.2600	Dermal Sensitization	40974518		OLD	See endnote <sup>13</sup>
<b>Generic Data Requirements</b>					
850.2100	Acute Avian Oral Toxicity	40974525		OLD	See endnote / Waived <sup>14</sup>
850.2200	Acute Avian Dietary Toxicity	40974526 40974527		OLD OLD	See endnote <sup>15</sup>
850.2400	Wild Mammal Toxicity				Not required
850.2300	Avian Reproductive Toxicity	41030205		OLD	See endnote <sup>16</sup>
850.2500	Simulated or Actual Field Testing				Not required
850.1075	Freshwater Fish Toxicity	40974528 40974529 48417002	Valent U.S.A. Corporation	OLD OLD PER	See endnote <sup>17</sup>
850.1010	Freshwater Invertebrate Toxicity	40974530 41685101		OLD OLD	See endnote <sup>18</sup>

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111 Martin Road  
Fulton, MS 38843

Product:

Clethodim 37% MUP

Ingredient: Clethodim (CAS No. 99129-21-2)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
850.1025, 850.1035, 850.1045, 850.1055, 850.1075	Acute Toxicity Estuarine and Marine Organisms	48417004 48417001 48563001 49371501	Valent U.S.A. Corporation Valent U.S.A. Corporation Valent U.S.A. Corporation Valent U.S.A. Corporation	PER PER PER PER	See endnote <sup>19</sup>
850.1300	Aquatic Invertebrate Life Cycle (Freshwater)	48104305	ADAMA Agan Ltd.	PAY	See endnote <sup>20</sup>
850.1350	Aquatic Invertebrate Life Cycle (Saltwater)	48548601 49371502	Valent U.S.A. Corporation Valent U.S.A. Corporation	PER PER	See endnote <sup>21</sup>
850.1400	Fish Early Life Stage (Freshwater)	48104303 48417002	ADAMA Agan Ltd. Valent U.S.A. Corporation	PAY PER	See endnote <sup>22</sup>
850.1400	Fish Early Life Stage (Saltwater)	48548602 49371503	Valent U.S.A. Corporation Valent U.S.A. Corporation	PER PER	See endnote <sup>23</sup>
850.1500	Life Cycle Fish				Not required
850.1710, 850.1730, 850.1850	Aquatic Organisms Bioavailability, Biomagnification, Toxicity	40974524 40974531		OLD OLD	See endnote <sup>24</sup>
850.1950	Simulated or Actual Field Testing for Aquatic Organisms				Not required
850.1735	Whole Sediment: Acute Freshwater Invertebrates				Not required
850.1740	Whole Sediment: Acute Marine Invertebrates				Not required
N/A	Whole Sediment: Chronic Invertebrates Freshwater and Marine				Not required
850.3020	Honey Bee Acute Contact Toxicity	41685107		OLD	See endnote <sup>25</sup>
Non-Guideline	Honey Bee Adult Acute Oral Toxicity			GAP	See endnote <sup>26</sup>

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Ingredient: Clethodim (CAS No. 99129-21-2)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
Non-Guideline (OECD 237)	Honey Bee Larvae Acute Oral Toxicity			GAP	See endnote <sup>26</sup>
Non-Guideline	Honey Bee Adult Chronic Oral Toxicity			GAP	See endnote <sup>26</sup>
Non-Guideline	Honey Bee Larvae Chronic Oral Toxicity			GAP	See endnote <sup>26</sup>
850.3030	Honeybee Toxicity of Residues on Foliage				Reserved <sup>26</sup>
850.3040	Field Testing for Pollinators				Reserved <sup>26</sup>
870.6100	Delayed Neurotoxicity (Acute) – Hen				Not required <sup>27</sup>
870.6200	Acute Neurotoxicity – Rat	48788502	Valent U.S.A. Corporation	PER	See endnote <sup>28</sup>
870.3100	90-Day Oral: Rodent	41030110 41030103 41030104 41030105 41030107 41030108		OLD OLD OLD OLD OLD OLD	See endnote <sup>29</sup>
870.3150	90-Day Oral: Non-Rodent	41030106 41623602		OLD OLD	See endnote <sup>30</sup>
870.3200	21/28-Day Dermal Toxicity	41030109 41030201		OLD OLD	See endnote <sup>31</sup>
870.3250	90-Day Dermal Toxicity				Not required <sup>32</sup>
870.3465	90-Day Inhalation Toxicity				Waived <sup>33</sup>
870.6100	28-Day Delayed Neurotoxicity Hen				Not required <sup>34</sup>
870.6200	90-Day Neurotoxicity	48788503	Valent U.S.A. Corporation	PER	See endnote <sup>35</sup>
870.4100	Chronic Oral Rodent	41030121		OLD	See endnote <sup>36</sup>

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111 Martin Road  
Fulton, MS 38843

Product:

Clethodim 37% MUP

Ingredient: Clethodim (CAS No. 99129-21-2)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
870.4200	Carcinogenicity	41030112 41030121		OLD OLD	See endnote <sup>37</sup>
870.4300	Combined Chronic Toxicity/Carcinogenicity	41030121		OLD	See endnote <sup>38</sup>
870.3700	Reproduction/Developmental Toxicity Screening Test	41030113 41030114 41030115 41030116 41030117 41030118		OLD OLD OLD OLD OLD OLD	See endnote <sup>39</sup>
870.3800	2-Generation Reproduction: Rat	41030119 41030120		OLD OLD	See endnote <sup>40</sup>
870.6300	Developmental Neurotoxicity Study				Not required <sup>41</sup>
870.5100	Bacterial Reverse Mutation Test	41030122 41030123 41030126 41030127		OLD OLD OLD OLD	See endnote <sup>42</sup>
870.5300, 870.5375	In vitro Mammalian Cell Assay	41030123 41030128 41030129 41030130 41030131		OLD OLD OLD OLD OLD	See endnote <sup>43</sup>
870.5385, 870.5395, 870.5450; 870.5550	In vivo Cytogenetics and Other Effects	41030124 41030125		OLD OLD	See endnote <sup>44</sup>

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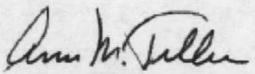
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Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
870.7485	Metabolism and Pharmacokinetics	41030132		OLD	See endnote <sup>45</sup>
870.7200	Companion Animal Safety				Not required
870.7600	Dermal Penetration	41030202		OLD	See endnote <sup>46</sup>
870.7800	Immunotoxicity	48788505	Valent U.S.A. Corporation	PER	
875.1100	Dermal Exposure – Outdoor		Agricultural Handlers Exposure Task Force	OWN	See endnote <sup>47</sup>
875.1200	Dermal Exposure - Indoor				Not required
875.1300	Inhalation Exposure – Outdoor		Agricultural Handlers Exposure Task Force	OWN	See endnote <sup>47</sup>
875.1400	Inhalation Exposure - Indoor				Not required
875.1500	Biological Monitoring		Agricultural Handlers Exposure Task Force	OWN	See endnote <sup>47</sup>
875.1600	Data Reporting and Calculations		Agricultural Handlers Exposure Task Force	OWN	See endnote <sup>47</sup>
875.1700	Product Use Information		Agricultural Handlers Exposure Task Force	OWN	See endnote <sup>47</sup>
875.2100	Dislodgeable Foliar Residue and Turf Transferable Residues		Agricultural Re-Entry TF Outdoor Residential Exposure TF	OWN	See endnote <sup>48</sup>
875.2200	Soil Residue Dissipation		Agricultural Re-Entry TF Outdoor Residential Exposure TF	OWN	See endnote <sup>48</sup>

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Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
875.2400	Dermal Exposure		Agricultural Re-Entry TF Outdoor Residential Exposure TF	OWN	See endnote <sup>48</sup>
875.2500	Inhalation Exposure		Agricultural Re-Entry TF Outdoor Residential Exposure TF	OWN	See endnote <sup>48</sup>
875.2600	Biological Monitoring		Agricultural Re-Entry TF Outdoor Residential Exposure TF	OWN	See endnote <sup>48</sup>
875.2700	Product Use Information		Agricultural Re-Entry TF Outdoor Residential Exposure TF	OWN	See endnote <sup>48</sup>
875.2800	Descriptions of Human Activity		Agricultural Re-Entry TF Outdoor Residential Exposure TF	OWN	See endnote <sup>48</sup>
875.2900	Data Reporting and Calculations		Agricultural Re-Entry TF Outdoor Residential Exposure TF	OWN	See endnote <sup>48</sup>
875.3000	Nondietary Ingestion Exposure		Agricultural Re-Entry TF Outdoor Residential Exposure TF	OWN	See endnote <sup>48</sup>
201-1	Droplet Size Spectrum		Spray Drift Task Force	OWN	See endnote <sup>49</sup>
202-1	Droplet Size Spectrum		Spray Drift Task Force	OWN	See endnote <sup>49</sup>
850.4100	Tier 1: Seedling Emergence	41685102 41685104		OLD OLD	See endnote <sup>50</sup>
850.4150	Tier 1: Vegetative Vigor	41685103 41685105		OLD OLD	See endnote <sup>51</sup>

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Product:

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Ingredient: Clethodim (CAS No. 99129-21-2)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
850.4400, 850.4500	Tier 1: Aquatic Plant Growth	41685106	U.S. EPA U.S. EPA	OLD	See endnote <sup>52</sup>
		42029701		OLD	
		42029702		OLD	
		42029703		OLD	
		42029704		OLD	
		42029705		OLD	
		42029706		OLD	
		47954504		PL	
		47954505		PL	
850.4100	Tier 2: Seedling Emergence	41685102 41685104	U.S. EPA U.S. EPA	OLD OLD	See endnote <sup>50</sup>
850.4150	Tier 2: Vegetative Vigor	41685103 41685105		OLD OLD	See endnote <sup>51</sup>
850.4400, 850.4500	Tier 2: Aquatic Plant Growth	41685106		OLD	See endnote <sup>52</sup>
		42029701	U.S. EPA U.S. EPA	OLD	
		42029702		OLD	
		42029703		OLD	
		42029704		OLD	
		42029705		OLD	
		42029706		OLD	
		47954504		PL	
		47954505		PL	
850.4300	Terrestrial Field				Not required

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Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
850.4450	Aquatic Field				Not required
850.4025	Target Area Phytotoxicity				Not required
835.2120	Hydrolysis	40974520		OLD	See endnote <sup>53</sup>
835.2240	Photodegradation in Water	41030133 41030134		OLD OLD	See endnote <sup>54</sup>
835.2410	Photodegradation in Soil	41030135		OLD	See endnote <sup>55</sup>
835.2370	Photodegradation in Air				Not required
835.4100	Aerobic Soil Metabolism	41376801 40974521 40974522		OLD OLD OLD	See endnote <sup>56</sup>
835.4200	Anaerobic Soil Metabolism	41030136		OLD	
835.4300	Aerobic Aquatic Metabolism				See endnote <sup>57</sup>
835.4400	Anaerobic Aquatic Metabolism	41652301		OLD	See endnote <sup>58</sup>
835.1230	Leaching/Adsorption/Desorption	40974523		OLD	See endnote <sup>59</sup>
835.1410	Volatility – Laboratory				Not required
835.8100	Volatility – Field				Not required
835.6100	Soil Field Dissipation Study	41030207 41030208 41030209 41030210		OLD OLD OLD OLD	See endnote <sup>60</sup>
835.6200	Aquatic Sediment Field Dissipation Study				Not required
835.6300	Forest Field Dissipation Study				Not required

Signature 	Name and Title Ann M. Tillman, Agent	Date May 29, 2018
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## DATA MATRIX

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Applicant's/Registrant's Name and Address:

AXSS Technical Holdings, LLC  
111 Martin Road  
Fulton, MS 38843

Product:

Clethodim 37% MUP

Ingredient: Clethodim (CAS No. 99129-21-2)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
835.6400	Combination and Tank Mixes				Not required
835.7100	Ground Water Monitoring				Not required
860.1300	Nature of the Residue: Plants	41030137 41030138		OLD OLD	
860.1300	Nature of the Residue: Livestock	41030139 41030140		OLD OLD	
860.1850	Confined Rotational Crops	41030211		OLD	

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Date

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Applicant's/Registrant's Name and Address: AXSS Technical Holdings, LLC 111 Martin Road Fulton, MS 38843	Product: Clethodim 37% MUP	
Ingredient: Clethodim (CAS No. 99129-21-2)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
860.1340	Residue Analytical Methods	41030141		OLD	
		41389901		OLD	
		41389902		OLD	
		41396001		OLD	
		41623401		OLD	
		41623402		OLD	
		41685001		OLD	
		41730701		OLD	
		42924501		OLD	
		42924502		OLD	
		43113201		OLD	
		43166402		OLD	
		43166403		OLD	
		43448201		OLD	
		43448202		OLD	
		43448203		OLD	
		43757701		OLD	
		43757702		OLD	
860.1360	Multiresidue Method	41030223		OLD	
		43166406		OLD	
		43166407		OLD	
860.1380	Storage Stability	41382301		OLD	
		41389903		OLD	
		41623403		OLD	
		41623404		OLD	

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Applicant's/Registrant's Name and Address:

AXSS Technical Holdings, LLC  
111 Martin Road  
Fulton, MS 38843

Product:

Clethodim 37% MUP

Ingredient: Clethodim (CAS No. 99129-21-2)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
860.1500	Magnitude of the Residue in Plants: Crop Subgroup 1A: Root Vegetables	43166403		OLD	
		43166405		OLD	
		43583801		OLD	
		44753206		OLD	
		45027802		OLD	
		45027803		OLD	
860.1500	Magnitude of the Residue in Plants: Crop Subgroup 1C: Tuberous and Corm Vegetables	43757704		OLD	
		44323401		OLD	
860.1500	Magnitude of the Residue in Plants: Crop Group 2: Leaves of Root and Tuber Vegetables	43166405		OLD	
		44753206		OLD	
		45504701		OLD	
860.1500	Magnitude of the Residue in Plants: Crop Subgroup 3-07A: Onion, Bulb	43166404		OLD	
		43583801		OLD	
860.1500	Magnitude of the Residue in Plants: Crop Group 4: Leafy Vegetables (except Brassica)	45027804	IR-4	OLD	
		45284402		OLD	
		45567601		OLD	
		46434603		PL	
		46434604		PL	
		48481701		PL	
860.1500	Magnitude of the Residue in Plants: Crop Group 5: Brassica (Cole) Leafy Vegetables	48499801	IR-4	PL	
		45284403		OLD	
		45284404		OLD	
		45504701		OLD	

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Ingredient: Clethodim (CAS No. 99129-21-2)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
860.1500	Magnitude of the Residue in Plants: Crop Group 6: Legume Vegetables (Succulent or Dried)	41030216	IR-4	OLD	
		41030217		OLD	
		41030218		OLD	
		43448202		OLD	
		43471702		OLD	
		46434606		PL	
		46434607		PL	
		46434608		PL	
860.1500	Magnitude of the Residue in Plants: Crop Group 8-10: Fruiting Vegetables	46434609	IR-4	PL	
		43757703		OLD	
		44753204		OLD	
		44753205		OLD	
		45015501		OLD	
860.1500	Magnitude of the Residue in Plants: Crop Group 9: Cucurbit Vegetables	46789801	IR-4	PL	
		44753203		OLD	
		45027805		OLD	
860.1500	Magnitude of the Residue in Plants: Crop Group 11-10: Pome Fruit	45027806	IR-4	OLD	
		49508701		PL	
860.1500	Magnitude of the Residue in Plants: Crop Group 12-12: Stone Fruit	49508702	IR-4	PL	
		47631403		PL	
		49508703		PL	
		49508704	IR-4	PL	

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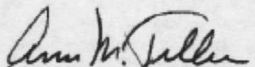
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Ingredient: Clethodim (CAS No. 99129-21-2)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
860.1500	Magnitude of the Residue in Plants: Crop Subgroup 13-07A: Caneberry	47631402	IR-4	PL	
860.1500	Magnitude of the Residue in Plants: Crop Subgroup 13-07B: Bushberry	47631401	IR-4	PL	
860.1500	Magnitude of the Residue in Plants: Crop Subgroup 13-07G: Low Growing Berry	45027807 45027808		OLD OLD	
860.1500	Magnitude of the Residue in Plants: Crop Subgroup 19A: Herbs	46258101 46258102	IR-4 IR-4	PL PL	
860.1500	Magnitude of the Residue in Plants: Crop Group 20: Oilseed	41030213 41030214 41030215 42286505 42286506 44323402 44393301 45858501 45875901 46434605 46789601	IR-4 IR-4	OLD OLD OLD OLD OLD OLD OLD OLD PL PL	
860.1500	Magnitude of the Residue in Plants: alfalfa	43448201 43471701 43848901		OLD OLD OLD	

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Ingredient: Clethodim (CAS No. 99129-21-2)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
860.1500	Magnitude of the Residue in Plants: globe artichoke	47631404	IR-4	PL	
860.1500	Magnitude of the Residue in Plants: asparagus	46434602	IR-4	PL	
860.1500	Magnitude of the Residue in Plants: clover	45027809		OLD	
860.1500	Magnitude of the Residue in Plants: field corn	46951801	Valent U.S.A. Corporation	PER	
860.1500	Magnitude of the Residue in Plants: hops	46434601	IR-4	PL	
860.1500	Magnitude of the Residue in Plants: green onion	45284401		OLD	
860.1500	Magnitude of the Residue in Plants: mint	45571901		OLD	
860.1500	Magnitude of the Residue in Plants: peanuts	43471703		OLD	
860.1500	Magnitude of the Residue in Plants: Stevia (dried leaves)	46258101 46258102	IR-4 IR-4	PL PL	
860.1520	Magnitude of the Residue in Processed Food or Feed: potato	43757704 44323401		OLD OLD	
860.1520	Magnitude of the Residue in Processed Food or Feed: soybean	41030220		OLD	
860.1520	Magnitude of the Residue in Processed Food or Feed: tomato	43757703 46789801	IR-4	OLD PL	
860.1520	Magnitude of the Residue in Processed Food or Feed: apple	49508701	IR-4	PL	
860.1520	Magnitude of the Residue in Processed Food or Feed: plum	49508704	IR-4	PL	
860.1520	Magnitude of the Residue in Processed Food or Feed: herbs	46258101 46258102	IR-4 IR-4	PL PL	

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Applicant's/Registrant's Name and Address: AXSS Technical Holdings, LLC 111 Martin Road Fulton, MS 38843	Product: Clethodim 37% MUP	
Ingredient: Clethodim (CAS No. 99129-21-2)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
860.1520	Magnitude of the Residue in Processed Food or Feed: rapeseed	44393301	IR-4	OLD	
860.1520	Magnitude of the Residue in Processed Food or Feed: sunflower	44323402		OLD	
860.1520	Magnitude of the Residue in Processed Food or Feed: cotton	41030219		OLD	
860.1520	Magnitude of the Residue in Processed Food or Feed: field corn	46951801	Valent U.S.A. Corporation	PER	
860.1520	Magnitude of the Residue in Processed Food or Feed: mint	45571901		OLD	
860.1520	Magnitude of the Residue in Processed Food or Feed: peanut	43471703		OLD	
860.1520	Magnitude of the Residue in Processed Food or Feed: sugar beet	43166405		OLD	
860.1480	Magnitude of the Residue in Meat, Milk, Poultry, and Eggs	41030221 41030222		OLD OLD	
860.1400	Nature and Magnitude of the Residue in Potable Water				Not required
860.1400	Magnitude of the Residue in Fish				Not required
860.1400	Magnitude of the Residue in Plants Resulting from the Use of Irrigation Water				Not required
860.1460	Magnitude of the Residue in Food Handling Establishments				Not required

Signature 	Name and Title Ann M. Tillman, Agent	Date May 29, 2018
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Applicant's/Registrant's Name and Address:

AXSS Technical Holdings, LLC  
111 Martin Road  
Fulton, MS 38843

Product:

Clethodim 37% MUP

Ingredient: Clethodim (CAS No. 99129-21-2)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
860.1900	Field Rotational Crops				Not required

Signature

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Ann M. Tillman, Agent

Date

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## Endnotes for Data Matrix for Clethodim 37% MUP

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- <sup>1</sup> **830.6313** – AXSS Technical Holdings, LLC requested a waiver from the requirement for stability data for Clethodim 37% MUP in the presence of metal ions since Clethodim 37% MUP will not be stored or packaged in containers made of metal or metal ions. AXSS Technical Holdings, LLC requested a waiver from the requirement for stability data – both to normal and elevated temperatures and to metal and metal ions – for Clethodim TGA1 due to the known instability of clethodim and to the fact that Clethodim TGA1 will not be stored for long periods of time but converted to Clethodim 37% MUP as soon as it is produced. These waivers were accepted by EPA.
- <sup>2</sup> **830.6316** – Clethodim 37% MUP is not expected to be explosive since clethodim does not contain the functional groups associated with explosive chemicals. This waiver was accepted by EPA.
- <sup>3</sup> **830.6319** – This data requirement is required when the product is an end use product and an emulsifiable liquid to be diluted with petroleum solvents. Clethodim 37% MUP is a liquid but it is not an end-use product to be diluted with petroleum solvents prior to application. In fact, Clethodim 37% MUP is used only to formulate end-use products. Therefore, AXSS Technical Holdings, LLC requested a waiver from the requirement for miscibility data for Clethodim 37% MUP. This waiver was accepted by EPA.
- <sup>4</sup> **830.6321** – These data are not required for registration of an MUP and not applicable to Clethodim 37% MUP.
- <sup>5</sup> **830.7200** – This guideline is not applicable to liquid products.
- <sup>6</sup> **830.7220** – These data are not required for MUP products. Literature data is cited for the TGA1.
- <sup>7</sup> **830.7520** – AXSS Technical Holdings, LLC requested a waiver for this data requirements for Clethodim 37% MUP because the product is not water insoluble and it is not a fibrous material. This waiver was accepted by EPA.
- <sup>8</sup> **870.1100** – The study cited is acceptable and satisfies the data requirement as per the Jan. 30, 2014 Clethodim. Preliminary Risk Assessment for Registration Review (DP D411899) (Human Health RA).
- <sup>9</sup> **870.1200** – The study cited is acceptable and satisfies the data requirement as per the Human Health RA.
- <sup>10</sup> **870.1300** – The study cited is acceptable and satisfies the data requirement as per the Human Health RA.
- <sup>11</sup> **870.2400** – The study cited is acceptable and satisfies the data requirement as per the Human Health RA.
- <sup>12</sup> **870.2500** – The study cited is acceptable and satisfies the data requirement as per the Human Health RA.
- <sup>13</sup> **870.2600** – The study cited is acceptable and satisfies the data requirement as per the Human Health RA.
- <sup>14</sup> **850.2100** – The study cited was acceptable and satisfies the data requirement as per the January 13, 2014 Clethodim: Preliminary Ecological Risk Assessment for Registration Review (DP 412535) (Ecological RA). Data on passerine species were identified on the Mar. 2, 2010 Generic Data Call-In (GDCl) and are not available in the Ecological RA. Passerine data were not identified as a data gap in the September 26, 2017 Clethodim Interim Registration Review Decision; therefore it is concluded the data requirement has been waived.
- <sup>15</sup> **850.2200** – The studies cited are acceptable and satisfy the data requirement as per the Ecological RA.
- <sup>16</sup> **850.2300** – As per the Ecological RA, there is only one acceptable avian reproduction study available, MRID 41030205. The study conducted on bobwhite quail (MRID 41030206) was downgraded to unacceptable/invalid and is not cited here. Although there is only one study available that satisfies this data requirement, no further data has been required.
- <sup>17</sup> **850.1075** – The studies cited are acceptable and satisfy the data requirement as per the Ecological RA.



## Endnotes for Data Matrix for Clethodim 37% MUP

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- <sup>18</sup> **850.1010** – MRID 41685101 is acceptable and satisfies the data requirement as per the Ecological RA. MRID 40974530 is also cited.
- <sup>19</sup> **850.1025, 850.1035, 850.1045, 850.1055, 850.1075** – The studies cited are acceptable or supplemental and satisfy the data requirement as per the Ecological RA. It appears MRID 49371501 was submitted to upgrade MRID 48563001, which was classified as supplemental, and is therefore cited here.
- <sup>20</sup> **850.1300** – The study cited is supplemental, but satisfies the data requirement as per the Ecological RA
- <sup>21</sup> **850.1350** – This data requirement was listed on the Mar. 2, 2010 GDCI and it appears MRID 48548601 was submitted in response. As per the Jan. 2014 Ecological RA, there were no acceptable estuarine/marine invertebrate chronic toxicity data available, however it appears MRID 49371502 was submitted to upgrade the previously submitted data in response to the GDCI. No additional data have been required as per the Sept. 18, 2016 Clethodim Proposed Interim Registration Review Decision (Case Number 7226) (Proposed Interim Decision).
- <sup>22</sup> **850.1400** – MRID 48104303 was classified as supplemental as per the Ecological RA, but appears to satisfy the data requirement. A supporting acute toxicity study is also cited.
- <sup>23</sup> **850.1400** – This data requirement was listed on the Mar. 2, 2010 GDCI and it appears MRID 48548602 was submitted in response to the GDCI. As per the Jan. 2014 Ecological RA, there were no acceptable estuarine/marine fish chronic toxicity data available. It appears MRID 49371503 was submitted to upgrade MRID 48548602. No additional data have been required.
- <sup>24</sup> **850.1710, 850.1730, 850.1850** – The studies cited were identified in the Ecological RA. No additional data have been required.
- <sup>25</sup> **850.3020** – The study cited is acceptable and satisfies the data requirement as per the Ecological RA.
- <sup>26</sup> **Non-Guideline, 850.3030, 850.3040** – As per the Proposed Interim Decision, the Agency will require Tier 1 testing to help inform the pollinator risk assessment. These data have not yet been called in, however AXSS Technical Holdings, LLC will make an offer to cost share for these data after a DCI has been issued. The need for higher Tier 2 and Tier 3 testing will be determined based on the results of lower-tier tests.
- <sup>27</sup> **870.6100** – This guideline is not required as per the Jan. 30, 2014 Clethodim. Preliminary Risk Assessment for Registration Review (DP D411899) (Human Health RA).
- <sup>28</sup> **870.6200** – The study cited is acceptable and satisfies the guideline as per the Human Health RA. MRID 48141801 was considered unacceptable and is therefore not cited here.
- <sup>29</sup> **870.3100** – The studies cited are acceptable and satisfy the data requirement as per the Human Health RA. Metabolite data are also cited.
- <sup>30</sup> **870.3150** – MRID 41030106 is acceptable and satisfies the data requirement as per the Human Health RA. It appears MRID 41623602 was submitted to provide supplemental information and is also cited.
- <sup>31</sup> **870.3200** – The studies cited are acceptable and satisfy the data requirement as per the Human Health RA.
- <sup>32</sup> **870.3250** – This guideline is not required as per the Human Health RA.
- <sup>33</sup> **870.3465** – This guideline was waived as per the Human Health RA and the Feb. 20, 2013 HASPOC memo.
- <sup>34</sup> **870.6100** – This guideline is not required as per the Human Health RA.
- <sup>35</sup> **870.6200** – The study cited is acceptable and satisfies the data requirement as per the Human Health RA.
- <sup>36</sup> **870.4100** – The study cited is acceptable and satisfies the data requirement as per the Human Health RA. Chronic dog data are not cited as these data were no longer required based on the 2007 revisions to 40 CFR Part 158.

## Endnotes for Data Matrix for Clethodim 37% MUP

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- <sup>37</sup> **870.4200** – The studies cited are acceptable and satisfy the data requirement as per the Human Health RA.
- <sup>38</sup> **870.4300** – The study cited is acceptable and satisfies the data requirement as per the Human Health RA.
- <sup>39</sup> **870.3700** – The studies cited are acceptable and satisfy the data requirement as per the Human Health RA.
- <sup>40</sup> **870.3800** – The studies cited are acceptable and satisfy the data requirement as per the Human Health RA.
- <sup>41</sup> **870.6300** – This guideline is not required as per the Human Health RA.
- <sup>42</sup> **870.5100** – The studies cited are acceptable and satisfy the data requirement as per the Human Health RA.
- <sup>43</sup> **870.5300, 870.5375** – The studies cited are acceptable and satisfy the data requirement as per the Human Health RA. MRID 41030131 is not mentioned in the Human Health RA but is also cited.
- <sup>44</sup> **870.5385, 870.5395, 870.5450, 870.5550** – The studies cited are acceptable and satisfy the data requirement as per the Human Health RA.
- <sup>45</sup> **870.7485** – The study cited is acceptable and satisfies the data requirement as per the Human Health RA.
- <sup>46</sup> **870.7600** – The study cited is acceptable and satisfies the data requirement as per the Human Health RA.
- <sup>47</sup> **875.1100, 875.1300, 875.1500, 875.1600, 875.1700** – AXSS Technical Holdings, LLC is a member of the Agricultural Handlers Exposure Task Force through its affiliation with Drexel Chemical Co..
- <sup>48</sup> **875.2100, 875.2200, 875.2400, 875.2500, 875.2600, 875.2700, 875.2800, 875.2900, 875.3000** – AXSS Technical Holdings, LLC is a member of the Agricultural Re-Entry Task Force and the Outdoor Residential Exposure Task Force through its affiliation with Drexel Chemical Co.
- <sup>49</sup> **201-1, 202-1** – AXSS Technical Holdings, LLC is a member of the Spray Drift Task Force through its affiliation with Drexel Chemical Co.
- <sup>50</sup> **850.4100** – The studies cited are acceptable and satisfy the data requirement as per the Ecological RA.
- <sup>51</sup> **850.4150** – The studies cited are acceptable and satisfy the data requirement as per the Ecological RA.
- <sup>52</sup> **850.4400, 850.4500** – The studies cited are acceptable or supplemental and satisfy the data requirement as per the Ecological RA.
- <sup>53</sup> **835.2120** – The study cited was identified in the Ecological RA. No additional data have been required.
- <sup>54</sup> **835.2240** – The studies cited were identified in the Ecological RA. No additional data have been required.
- <sup>55</sup> **835.2410** – The study cited was identified in the Ecological RA. No additional data have been required.
- <sup>56</sup> **835.4100** – MRIDs 41376801 and 40974522 were identified in the Ecological RA. MRID 40974521 is also cited.
- <sup>57</sup> **835.4300** – As per the Ecological RA, there are no studies available to fulfill this data requirement, however no additional data have been required.
- <sup>58</sup> **835.4400** – The study cited was identified in the Ecological RA. No additional data have been required.
- <sup>59</sup> **835.4400** – The study cited was identified in the Ecological RA. No additional data have been required.
- <sup>60</sup> **835.6100** – The studies cited were identified in the Ecological RA. No additional data have been required.